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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/401,352	09/27/1999	DAVID L. NAYLOR	74557	4565

7590

12/09/2003

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EXAMINER

FERRIS III, FRED O

ART UNIT

PAPER NUMBER

2123

DATE MAILED: 12/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/401,352

Applicant(s)

NAYLOR ET AL. *✓*

Examiner

Fred Ferris

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 August 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-32 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-23 is/are allowed.
- 6) ☒ Claim(s) 24-32 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 December 2002 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☒ Interview Summary (PTO-413) Paper No(s). 11.
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____. 6) ☐ Other:

DETAILED ACTION

1. *Claims 1-32 have been presented for examination based on applicant's Request for Continued Examination (RCE) under 37 CFR 1.114 (paper #9) and amendment (paper # 10) filed on 7 August 2003. Claims 1-23 have been allowed. Claims 24-32 remain rejected by the examiner.*

Response to Arguments

2. *Applicants arguments filed on 7 August 2003 (paper # 10) have been fully considered.*

Regarding applicant's response to 35 U.S.C. 112(1) rejection: Applicant's have presented persuasive arguments and provided further clarification of the physical system and elements and connections of the system to be assembled. (see attached interview summary) The examiner withdraws the 112(1) rejection of claims 1-32 based on applicant's arguments and further clarification of the physical system and elements and connections of the system to be assembled.

Regarding applicants' response to 35 U.S.C. 103(a) rejections: Applicant's have amended claims and included "means for" language in independent claims 1 and 13. Accordingly, the examiner withdraws the previous 103(a) rejections and has now allowed claims 1-23 in view of the amendment to the claims and 35 U.S.C. 112 paragraph 6. (please see allowable subject matter below) However, the examiner notes that independent claim 24 does not recite "means for" language as indicated by applicants arguments filed in amendment (paper # 10) page 11, line 20. While the

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examiner believes this may have merely been an oversight, the examiner nonetheless has also applied new 103(a) art rejections to claims 24-32. (please see 103(a) rejections below)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. *Claims 24-32 are rejected under 35 U.S.C. 103(a) as being unpatentable over "Using IsSpice4", Intsoft, Inc., pp. 19-85, May 1998, in view of U.S. Patent 3,795,798 issued to Endo et al*

Independent claims 24 is drawn to:

Apparatus for assembling/operating physical remote location and: switches and controller for interconnecting elements conversion processor to convert graphical representation to list (elements/interconnections)

communication processor to transfer element list from remote location to element controller

element controller to assemble/operate system IAW element list by interconnecting elements

Dependent claims 25-32 are drawn to:

GUI for graphical representation of structural elements, forcing functions and measurement instruments.

pointer to drag icons of elements to graphical representation in assembly area

connector routine to connect icons of elements within assembly area

task object to decompose element list into set of task elements

forcing function to load the physical system

measurement instrument to record system response to forcing function

matrix switch to interconnect structural elements forcing function measurement instrument

task object to transfer graphical representation of system response to remote location

*Regarding claims 24-32: IsSpice teaches creating a **graphical representation of a system containing elements and connections** in an on-screen workspace area providing GUI representation and **graphical display of structural elements**, **connecting icons of elements in an assembly area (pointing/dragging icons)** to **assemble** a completed system design via a connector routine. These features are well known in the art and available on nearly any commercially available CAD/CAM software package. (Mentor, Cadence, Spice, AutoCad, etc.) IsSpice also incorporates processing for controlling elements (element processor), communication (communication processor), element lists (netlists), response measurement, and conversion (conversion processor) on a standard PC work station (terminal including a pointing device) that can be **communicated** with remotely and used in physical (remote) assembly and test and validation. (pages: 27-31, 35-37, 48-50, 61-63, 65-67, 80)*

IsSpice does not explicitly teach a matrix switch interconnecting circuit elements.

Endo et al discloses a switch matrix and controller for the interconnection and operation of circuit elements. (Abstract, Summary of Invention, CL3-L1-35, 54-65, CL4-L7-55, CL-L7-65, Figs. 1-5)

*It would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teaching of IsSpice relating to creating a **graphical representation of a physical system containing elements and connections** in an on-screen workspace area, with the teachings of Endo et al relating to a matrix switch interconnecting circuit elements, to realize the claimed invention. An obvious motivation exists since, as referenced by prior art, remotely managing collaborated design and prototyping allows design parameters to be easily, accurately, and expediently changed. It would further have been obvious, and necessary, to include a system **matrix switch** for interconnecting **structural elements** in order to accommodate the **forcing function and measurement instrument** since the system is required to externally "switch in" and "force" a **load** on the circuit element, and then **take measurements to record system response to the forcing function**.*

Allowable Subject Matter

4. Claims 1-23 are allowed over prior art of record.

The following is an examiners statement of reasons allowance:

Independent claims 1 and 13 use "mean for" language and are given deference in view of In re Donaldson and interpreted in view of 35 U.S.C. § 112 paragraph 6. The "means for" language and the limitations related thereto of claims 1 and 13 are

interpreted within the scope of enablement as provided within the relative embodiment provided within applicant's specification. Specifically, applicants invention pertaining to the "means for" electrically interconnecting the structural elements as configured by the element controller and delineated by the an element list and allocated by the MRBResourceAllowcator as disclosed in applicants specification page 10, line 23 to page 12, line 27, and Figure 2 is deemed novel and non-obvious over prior art of record. Dependent claims 1-12 and 14-23 are allowable by being dependent from claims 1 and 13 respectively.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure, careful consideration should be given prior to applicant's response to this Office Action.

U.S. Patent 5,107,146 issued to El-Ayat teaches programmable interconnect of circuit design elements and validation.

U.S. Patent 6,034,541 issued to Kopec teaches programmable interconnect of circuit design elements and validation.

U.S. Patent 6,202,070 issued to Nguyen teaches remote computer manufacturing.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 703-305-9670 and whose normal working hours are 8:30am to 5:00pm Monday to Friday.

Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 703-305-3900.

The Official Fax Numbers are:

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